

ABSTRACT

An improved noise reduction process by wavelet thresholding utilizes a discrete wavelet transform to decompose the image into different resolution levels. A thresholding function is then applied in different resolution levels with different threshold values to eliminate insignificant wavelet coefficients which mainly correspond to the noise in the original image. Finally, an inverse discrete wavelet transform is applied to generate the noise-reduced video image. The threshold values are based on the relationships between the noise standard deviations of different decomposition levels in the wavelet domain and the noise standard deviation of the original image.

15